



Tamarack Water Alliance Community Zoom Meeting Wed. September 6, 2023, 10am CT

Hello from the Tamarack Water Alliance! If you are new to our email list we welcome you. Local residents who volunteer with Tamarack Water Alliance compile and send this monthly newsletter to share updates, invitations, and informational articles.

Everyone is invited to attend our open community virtual Zoom meeting on Wednesday, September 6, 2023 at 10am CT. The topic is **Peatland Restoration As A Natural Climate Solution in Minnesota**. Kristen Blann (Conservation Biology, UMN, M.S. '00, PhD '04) who is Lead Freshwater Ecologist with The Nature Conservancy in MN, ND, SD will give the presentation. For the past 15+ years, she has provided technical leadership for freshwater and watershed conservation planning at TNC, including development of ecological flow and water level criteria to support sustainable water management and lake classification and conservation portfolios in 4 states. In addition to peatland protection, she is currently working on climate adaptation and protection for wild rice, as well as science, restoration and protection strategies for floodplains, wetlands, and freshwater in MN, ND, and SD. Kristen is based in north central Minnesota where she and her husband raise vegetables, chickens and grass-fed lamb.

Download Tamarack Water Alliance fact sheets
<https://www.tamarackwateralliance.org/resources.html>

Sign-Up To Receive Updates from the DNR on Talon Metals Environmental Impact Statement
<https://www.dnr.state.mn.us/input/environmentalreview/tamarack-nickel-project.htm>

If you believe nickel-sulfide mining is too risky in Aitkin County, Tamarack Water Alliance has yard signs with this messaging available. Your \$6 donation helps defray

costs. Email waters@tamarackwateralliance.org to arrange pickup of your sign.

Volunteer with the Tamarack Water Alliance. Send us an **email** (waters@tamarackwateralliance.org)

Encourage your friends, family and neighbors to sign up for the monthly Tamarack Water Alliance **email newsletter** (<http://eepurl.com/hOboEb>).

Peat and RePeat: Why Protecting & Restoring Minnesota's Peatlands Matters for Climate, Water, & People **by Kristen Blann, MS, PhD**

Keeping Minnesota's enormous peatland carbon stocks locked up is critical for achieving climate goals, but a legacy of drainage has compounded the challenge.

As of last week, wildfires in Canada had already burned nearly 38 million acres, an area that would cover nearly 70% of the state of Minnesota, and obliterating records from all fire seasons in recent history. Climate change—with its growing threat of climate disasters—is the elephant in the room, displacing people from their homes, disrupting wildlife, ecosystems, and people, and bringing home the urgency of both climate action AND climate adaptation.

Natural Climate Solutions = Climate Smart Natural and Working Lands

The basic idea recognizes that these ecosystems are holding on to an enormous amount of stored carbon in soil and biomass, but the way we are currently using and degrading our lands & waters is currently a major source of greenhouse gas emissions. Protecting and managing these lands strategically has the potential to restore them as carbon sinks, or at least reduce carbon losses. .

When it comes to these land- and water-based pathways, peatlands are a carbon storage powerhouse. Globally, peatlands occupy only about 3-4% of the terrestrial land surface, but account for more than 1/3 of stored soil carbon—more than 2 times as much as the world's forests combined! At the same time, we also know that drained and degraded peatlands are a major source of GHG emissions, accounting for roughly 5% of global emissions.

So, when it comes to NCS, avoided peatland impacts and peatland restoration have consistently shown up in global analyses as two of the most critical pathways for climate mitigation.

Peat is partially decayed plant material that accumulates in soil under cool, moist conditions where waterlogged conditions prevent microbes from breaking down dead plant material and leaves. The carbon that peat accumulates represents CO₂ that plants remove from the atmosphere that then becomes sequestered long-term underground due to the waterlogged conditions. While all peatlands are wetlands, not

all wetlands are peatlands. Peatlands, simply, are wetlands that accumulate peat.

Of the lower 48 United States, Minnesota contains the most peatlands, which, at over 6 million acres, makes up at least 10% of the state's land area. In Minnesota, our peatlands are largely an extension of a band of northern temperate peatlands stretching across Canada into the Great Lakes region.

Over the long run, intact peatlands mainly function as carbon sinks or sponges, soaking up carbon from the atmosphere and storing it in the peat. However, this can fluctuate over climate cycles, with warmer drier periods reducing this process. Drainage also causes this process to reverse.

A Legacy of Alteration

Up until the late 19th century, well over 10-20% of what is now the state of Minnesota was covered in wetlands, and bogs and fens were widespread even in southern and western parts of the state. The indigenous people who lived in and stewarded these landscapes valued the peatlands as intact ecosystems that furnished them with food, medicines, furs, and other gifts. However, when European settlers moved into the landscape, they viewed these "poorly drained" areas were viewed as "wastelands", and massive drainage investments were made to drain these "swamps" for "productive" agriculture and forestry uses.

When peatlands are drained, the carbon that had been stored in the waterlogged soils is revived from its watery resting place, awakening a kind of "carbon zombie" fueled by microbes that consume decaying matter and pump out greenhouse gases much more quickly than they would have under wet conditions. And in Minnesota, it's estimated that we have well over than 21,000 miles of drainage ditches, at least 4000 miles of which intersect areas with peat soils. .

In the more extensive peatland areas of northern MN, however, many of these massive drainage efforts were economically unsuccessful, and millions of acres reverted to state & county administration via tax forfeit largely during the Depression era. Yet even in these partially drained northern peatlands, the legacy of ditching is still leading to ongoing carbon stock losses and peat degradation.

Public perception of the importance of wetlands and peatlands began to shift in the late 1980s, partly in response to growing efforts of conservationists, scientists, Tribal Nations, and others to articulate the value and importance of protecting them in their natural state. Since the passage of the Minnesota Wetlands Conservation Act (WCA) in 1991 that established a goal of "no net loss" of wetland functions and services, as well as the designation of multiple peatland areas in the 1990s under the Scientific and Natural Areas program administered by Minnesota Department of Natural Resources (DNR), Minnesota has maintained relatively strong existing legal protections for peatlands.

State and county owned peatlands are managed according to their designation as public wildlife management areas, forestry lands, or School Trust Lands. However, legacy drainage, along with agriculture, forestry, mining, and climate change all

represent potential ongoing threats to peatlands and their carbon stores. There is growing demand for copper, nickel, and rare earth materials driven by the expanded electrical vehicle production and other products deemed necessary for the clean energy transition, and many mining interests are eyeing northern Minnesota's mineral resources, with several new mining projects proposed or in the pipeline. Although the acreage of remaining peatlands at risk of complete drainage or conversion is relatively limited, they play an outsized role in protecting carbon stocks, connected and intact wildlife habitat, and water supplies. There's a critical need for our science and policy to keep pace with emerging threats and challenges to ensure we don't further compromise our water, native ecosystems, or climate in the process.

Is it too late?

As the recent Global Peatlands Assessment concluded: *"If implemented with urgency, the protection, restoration and sustainable management of peatlands offer a huge win for people, climate and nature... Conservation and restoration [of peatlands] ...would simultaneously support biodiversity, improve water quality, reduce flood risk, reduce air pollution and carbon emissions from peatland fires, and enhance the protection of important cultural heritage. The benefits are enormous."*

Acknowledgments: The Nature Conservancy in Minnesota's "Team Peat", the global NCS Prototyping Team, Bezos Earth Fund, TNC climate donors, and all of our many, many partners and advisors.

See also:

Restoring Minnesota's Peatlands for Climate & Water (TNC)

<https://www.nature.org/en-us/about-us/where-we-work/united-states/minnesota/stories-in-minnesota/peatland-restoration-study/>

Minnesota Scientific and Natural Areas Patterned Peatlands

<https://www.dnr.state.mn.us/snas/peatlands.htm>

Real climate solutions protect peatlands (MCEA), <https://www.mncenter.org/real-climate-solutions-protect-peatlands>



CALL TO ACTION

**Comment On MPCA Plan to Degrade Minnesota's Wild Rice Standard
Deadline September 4, 2023**

<https://mpca.commentinput.com/?id=Q4hZRckTW&e>

MPCA is NOT planning any public hearing in addition to written comments.

The Minnesota Pollution Control Agency (MPCA) has resisted enforcement of Minnesota's 1973 federally-approved wild rice sulfate standard for 50 years. However, due to advocacy by WaterLegacy and tribes, state courts have recently upheld Minnesota's 10 parts per million (ppm) wild rice sulfate standard and the U.S. Environmental Protection Agency (EPA) has required MPCA to list Minnesota wild rice waters impaired because sulfate exceeds the standard.

MPCA is now proposing an implementation plan for permitting that would allow low-sulfate waters to be degraded. Lakes and streams where wild rice grows abundantly in the Boundary Waters, Lake Superior watershed, and north central Minnesota often have natural sulfate levels far below 10 ppm. [see map below] MPCA proposes that permits in low-sulfate areas will only limit sulfate if a discharger's pollution would increase sulfate levels to more than 10 ppm.

Allowing degradation may harm wild rice abundance as well increasing mercury

contamination of fish and opening the door to future violations of the sulfate standard.

Two taconite mining companies have requested “site specific standards,” to allow more sulfate pollution, and MPCA on its own can also propose a “site specific standard” to allow elevated sulfate levels to continue. MPCA has proposed that a polluter would have to show that wild rice long-term beneficial use would be protected to get an exception, but criteria for this proof are unclear. MPCA has also proposed allowing more sulfate pollution where there are high levels of iron, the very approach rejected in MPCA’s failed 2018 rulemaking.

Talking Points: MPCA must enforce standard of 10 parts per million, degradation prohibited, protect low sulfate waters, sulfates increase mercury in fish which creates threat to human health, need proof to consider site-specific standard, high iron and sulfate make things worse, MPCA's "equation" is not valid science, must prove with independent research for 5 years, tribal input and consent must be included, and until site-specific standard has been implemented the MPCA must enforce Minnesota's 10 parts per million.

Feel free to copy and paste the talking points here:

<https://waterlegacy.org/talking-points-wild-rice/?eType=EmailBlastContent&eld=cbbec52a-4549-4575-9a34-9a062135dc86>

Northland Reliability Project Files Proposed Route with Public Utilities Commission

View Map <https://www.northlandreliabilityproject.com/maps/>

This 180 mile route will support a double-circuit 345-kV transmission line and go through the Mississippi, Rice, and Willow River watersheds. Learn more here

<https://www.northlandreliabilityproject.com/>

Who We Are

Tamarack Water Alliance (tamarackwateralliance.org) is a group of local residents and landowners working together with others from across Minnesota to protect water and community health from the dangers of sulfide mining near our beloved lakes and wild rice beds, at the headwaters of the Kettle River and in the Mississippi River watershed.

A proposal by a foreign owned mining company to mine nickel and other metals near Tamarack in Aitkin County threatens the health of our communities. This kind of sulfide mining, especially in water-rich environments, has never been done without severe impacts to water and the health of those downstream. Mining here is also a threat to

environmental justice and the long-term economic security of nearby native and rural communities.

Review our community slide presentation,
(tamarackwateralliance.org/docs/TamarackMineConcerns-Consolidated.pdf)

Download seven informative flyers: (<https://tamarackwateralliance.org/resources.html>)

- Talon Mine Risks,
- Geology of Aitkin County,
- High Sulfide Mines Create Acid Mine Drainage,
- Nickel Not Needed for Future EV Batteries,
- Minnesota's Prime Wild Rice Lakes Under Threat,
- Minnesota Regulators Poor Record In Protecting The Environment,
- Eagle Mine Environmental Report & Saving Our Meager Nickel Reserves

We will be sending this monthly newsletter to keep you informed about this project, to share information and opportunities to act, and to invite you to gatherings where you can connect with others who share a passion for clean water and community health.

